



Air Resources Laboratory Publications - FY 06



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Angell, J.K. Changes in the 300-mb north circumpolar vortex, 1963–2001. *Journal of Climate* 19:2984–2994, doi:10.1175/JCLI3778.1 (2006).

Bowker, G.E., D.K. Heist, S.G. Perry, L.A. Brixey, R.S. Thompson, and R.W. Wiener. The influence of a tall building on street canyon flow in an urban neighborhood. Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15-19, 2006, Leipzig, Germany. NATO/CCMS, 58-59 (2006).

Bullock, O.R., Jr., D. Atkinson, T. Braverman, A. Dastoor, D. Davignon, N. Eckley-Selin, D. Jacob, K. Lohman, C. Seigneur, K. Vijayaraghavan, T. Myers, K. Civerolo, and C. Hogrefe. The North American Mercury Model Inter-comparison Study (NAMMIS). Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15-19, 2006, Leipzig, Germany. NATO/CCMS, 60-61 (2006).

Bullock, O.R., Jr., and T. Braverman. Application of the CMAQ mercury model for U.S. EPA regulatory support. Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15-19, 2006, Leipzig, Germany. NATO/CCMS, 62-69 (2006).

Byun, D., and K.L. Schere. Review of the governing equations, computational algorithms, and other components of the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. *Applied Mechanics Reviews* 59:51-77 (2006).

Canepa, E., and J.S. Irwin. Evaluation of air pollution models. In *Air Quality Modeling: Theories, Methodologies, Computational techniques, and Available Databases and Software*. Paolo Zannetti (Ed.). Volume II - Advanced Topics. Chapter 17. EnviroComp Institute and Air & Waste Management Association, Pittsburgh, 503-556 (2005).

Ching, J., V. Isakov, M.A. Majeed, and J.S. Irwin. An approach for incorporating sub-grid variability information into air quality modeling. Proceedings, 14th Joint Conference on the Applications of Air Pollution Meteorology with the Air and Waste Management Association, Atlanta, GA, Jan. 28- Feb. 2, 11 pp. (2006).

Cooter, E.J., R. Gilliam, W. Benjey, C. Nolte, J. Swall, and A. Gilliland. Examining the impact of changing climate on regional air quality over the United States.

Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15–19, 2006, Leipzig, Germany. NATO/CCMS, 100-113 (2006).

Dousset, B., and F. Gourmelon. Under the 2003 heat wave: Surface temperature variability of the Paris basin, from satellite time series images. Proceedings, 6th International Conference on Urban Climate, June 12-16, Göteborg, Sweden, 573-575 (2006).

Draxler, R.R. The use of global and mesoscale meteorological model data to predict the transport and dispersion of tracer plumes over Washington, D.C. *Weather and Forecasting* 21(3), 383–394. doi:10.1175/WAF926.1 (2006).

Eckman, R.M., R.J. Dobosy, T.W. Strong, and P.G. Hall. In situ measurements of 3D turbulence in hurricanes Frances and Ivan using a pressure-sphere anemometer. Preprints, 27th Conference on Hurricanes and Tropical Meteorology, 24–28 April 2006, Monterey, CA, American Meteorological Society, 3 pp. (2006).

Escudero, M., A. Stein, **R.R. Draxler**, X. Querol, A. Alastuey, S. Castillo, and A. Avila. Determination of the contribution of northern Africa dust source areas to PM10 concentration over the central Iberian Peninsula using the Hybrid Single-Particle Lagrangian Integrated Trajectory model (HYSPPLIT) model. *Journal of Geophysical Research* 111, D06210, doi:10.1029/2005JD006395 (2006).

Fast, J.D., K. J. Allwine, R. Dietz, **K.L.Clawson**, and J. Torcolini. Dispersion of perfluorocarbon tracers within the Salt Lake Valley during VTMX 2000. *Journal of Applied Meteorology and Climatology* 45(6):793-812 (2006).

Free, M., D.J. Seidel, J.K. Angell, J. Lanzante, I. Durre, and T.C. Peterson. Radiosonde Atmospheric Temperature Products for Assessing Climate (RATPAC): A new data set of large-area anomaly time series. *Journal of Geophysical Research* 110, D22101, doi:10.1029/2005JD006169 (2005).

Gillette, D.A., J.E. Herrick, and G.A. Herbert. Wind characteristics of mesquite streets in the Northern Chihuahuan Desert, New Mexico, USA. *Environmental Fluid Mechanics* 6:241-275 (2006).

Godowitch, J., S.T. Rao, E. Gego, and P.S. Porter. Integrated observational and modeling approaches for evaluating the impact of emission control policies. Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15–19, 2006, Leipzig, Germany. NATO/CCMS, 198 pp. (2006).

Hicks, B.B. Dry deposition to forests – On the use of data from clearings. *Agricultural and Forest Meteorology* doi:10.1016/j.agrformet.2004.06.013 (2005).

Hollinger, S.E., C.J. Bernacchi, and **T.P. Meyers**. Reply to Letter to the Editor
 "Comment on 'Carbon budget of mature no-till ecosystem in North Central Region of the United States' by Dobermann et al." *Agricultural and Forest Meteorology*
 doi:10.1016/j.agrformet.2005.11.021 ((2006)).

Hollinger, S.E., C.J. Bernacchi, and **T.P. Meyers**. Corrigendum to "Carbon budget of mature no-till ecosystem in north central region of the United States [Agric. For. Mete. 130 (2005) 59 – 69. *Agricultural and Forest Meteorology*, Vol. 135, pp. 88 – 89 (2006).]

Irwin, J.S. A historical look at the development of regulatory air quality models for the United States Environmental Protection Agency. In *Air Quality Modeling: Theories, Methodologies, Computational techniques, and Available Databases and Software*. Paolo Zannetti (Ed.). Volume II - Advanced Topics. Chapter 18. EnviroComp Institute and Air & Waste Management Association, Pittsburgh, 557-622 (2005).

Isakov, V., and A. Venkatram. Resolving neighborhood scale in air toxics modeling: a case study in Wilmington, California. *Journal of Air & Waste Management Association* 56:559-568 (2006).

Jacob, D.J., and **A.B. Gilliland**. Modeling the impact of air pollution on global climate change. *EM*, October 24–26, 2005.

Kang, D., **R. Mathur**, S. Yu, and **K. Schere**. Performance characteristics of Eta-CMAQ O₃ forecast over different regions of the Continental United States. Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15-19, 2006, Leipzig, Germany. NATO/CCMS, 314-321 (2006).

Liang, X.-Z., J. Pan, J. Zhu, K.E. Kunkel, **J.X.L. Wang**, and A. Dai. Regional climate model downscaling of the U.S. summer climate and future change. *Journal of Geophysical Research*, 111, D10108, doi:10.1029/2005JD006685 (2006).

Liang, X.-Z, M. Xu, H. IL Choi, K.E. Kunkel, L. Rontu, J-F. Geleyn, M.D. Müller, E. Joseph, **J.X.L. Wang**. Development of the regional Climate-Weather Research and Forecasting Model (CWRF): Treatment of subgrid topography effects. Proceedings, 7th WRF Users' Workshop in Boulder, Colorado on 19 - 22 June, 5 pp. (2006).

Meyers, T.P., W.T. Luke, and J.L. Meisinger. Fluxes of ammonia and sulfate over maize using relaxed eddy accumulation. *Agricultural and Forest Meteorology*, Vol. 136:203-213 (2006).

Okin, G., and **D. A. Gillette**. Multi-scale controls on and consequences of aeolian processes in landscape change in arid and semi-arid environments. *Journal of Arid Environments* 65:253-275 (2006).

Pinto, J.P., L.D. Grant, A.F. Vette, and **A.H. Huber**. Evaluation of potential human exposures to airborne particulate matter following the collapse of the World Trade Center towers. In *Urban Aerosols and Their Impacts--Lessons Learned from the World Trade Center Tragedy*. J.S. Gaffney, and N.A. Marley (Eds.). American Chemical Society, Washington, DC, 190-237 (2006).

Pitchford, M.L., B.A. Schichtel, K.A. Gebhart, W.C Malm, M.G. Barna, E.M. Knipping, and I.H. Tombach, Reconciliation and interpretation of Big Bend National Park light extinction source attribution: Results from the Big Bend Regional Aerosol and Visibility Observational Study – Part II. *Journal of the Air and Waste Management Association* 55:1726-1732 (2005).

Pleim, J.E. A simple efficient solution of flux-profile relationships in the atmospheric surface layer." *Journal of Applied Meteorology and Climatology* 45:341-347 (2006).

Randerson, D. Analysis of thunderstorm forecasts and cloud-to-ground lightning in the vicinity of the Nevada Test Site. SORD Technical Memorandum: SORD 2006-01 (in-house), 6 pp. (2006)

Randerson, D. Investigation of range-applicable lightning detection systems. SORD Technical Memorandum: SORD 2006-02 (in-house), 6 pp. (2006)

Sarwar, G., D. Luecken, and G. Yarwood. Developing and implementing an updated chlorine chemistry into the Community Multiscale Air Quality model. Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15–19, 2006, Leipzig, Germany. NATO/CCMS, 497-504 (2006).

Schichtel, B.A., W.C Malm, and **M.L. Pitchford**. Critique of "Precipitation in Light Extinction Reconstruction" by P.A. Ryan. *Journal of the Air and Waste Management Association* 56:539-546 (2006).

Schichtel, B.A., K.A. Gebhart, W.C Malm, M.G. Barna, **M.L. Pitchford**, E.M. Knipping, and I.H. Tombach. Reconciliation and Interpretation of Big Bend National Park particulate sulfur source apportionment: results from the Big Bend Regional Aerosol and Visibility Observational Study – Part I. *Journal of the Air and Waste Management Association* 55:1709-1725 (2005).

Seidel, D.J., and M. Free. Measurement requirements for climate monitoring of upper-air temperature derived from reanalysis data. *Journal of Climate*, 19:854-871. (2006).

Soule' D.A. Climatology of the Nevada Test Site. SORD Technical Memorandum SORD 2006-03, 165 pages. (2006).

Touma, J.S., V. Isakov, J. Ching, and C. Seigneur. Air quality modeling of hazardous pollutants: Current status and future directions. *Journal of Air & Waste Management Association* 56:547-558 (2006).

Wiedinmyer, C., J. Greenberg, A. Guenther, B. Hopkins, K. Baker, C. Geron, P.I. Palmer, B.P. Long, J.R. Turner, G. Pétron, P. Harley, **T.E. Pierce**, B. Lamb, H. Westberg, W. Baugh, M. Koerber, and M. Janssen. OZarks Isoprene Experiment (OZIE): Measurements and modeling of the “isoprene volcano.” *Journal of Geophysical Research-Atmospheres* 110, D18307, doi:10.1029/2005JD005800 (2005).

Xu, J., D. DuBois, **M. Pitchford**, M. Green, and V. Etyemezian. Attribution of sulfate aerosols in Federal Class I areas of the western United States based on trajectory regression analysis. *Atmospheric Environment* 40:3433-3447 (2006).

Yu, S., B. Eder, R. Dennis, S.-H. Chu, and S.E. Schwartz. New unbiased symmetric metrics for evaluation of air quality models. *Atmospheric Science Letters* 7:26-34 (2006).

Yu, S., R. Mathur, K. Schere, D. Kang, J. Pleim, J. Young, and T. Otte. A study of process contributions to ozone formation during the 2004 ICARTT period using the Eta-CMAQ forecast model over the Northeastern U.S. Preprints, 28th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application, May 15-19, 2006, Leipzig, Germany. NATO/CCMS, 608-615 (2006).

Yuan, J., A. Venkatram, and **V. Isakov**. Dispersion from ground-level sources in a shoreline urban area. *Atmospheric Environment* 40:1361-1372 (2006).

Zhang, K.M., E.M. Knipping, A.S. Wexler, **P.V. Bhave**, G.S. Tonnesen. Reply to comment on “Size distribution of sea-salt emissions as a function of relative humidity.” *Atmospheric Environment* 40:591-592 (2006).